Adaptive Capacity of Rural Women and their Potentials for Participating in Poverty Alleviation Programmes in Niger State, Nigeria

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Abstract
The study investigated the level and determinants of adaptive capacity among rural women Niger state. A Multistage random sampling technique was used to select 100 Women from three (3) peri-urban villages (Maikunkele, Bosso and Chanchaga) purposively selected based on the prevalence of poverty alleviation programmes as well as proximity to the State Capital and Federal University of Technology, Minna. The Primary data collected were analysed using descriptive statistics, adaptive capacity and beta regression. The results revealed that the level of participation in the various PAPs was very low except in the case of National Health Insurance Scheme. Moreover, less than 10% of the women possess adequate capacity to participate in the PAPs. It was also observed that most of the factors either alone or in interaction with others tend to suppress the adaptive capacity of the women to participate in the PAPs. It was further noted that most of the respondents have not acquired beyond secondary education haven spent about 8 years in formal education, although completing College of Education was found to increase adaptive capacity by about 5%. The most serious constraint against full participation in the PAPs is lack of awareness of the programmes. There is need to integrate awareness and education in the programme document of any PAP in order to raise the level of participation above what is reported in this study.

Keywords: Poverty Alleviation, Rural women, Adaptive capacity, beta regression

Introduction

Poverty alleviation dominates the International Development Agenda of the 21st century. The improvement of the health and living conditions of millions around the world is a primary concern of the current Millennium Development Goals for reducing poverty (Kates, Parris & Leiserowitz, 2005; Moore, Jekielek, Hair, & Scarupa, 2007; Oyeniyi, 2013; Ajulor, 2013; Jha & Sharma, 2003; Ogunleye, 2010; Oluyole, 2012). Poverty refers to a situation and process of serious deprivation or lack of resources and materials necessary for living within a minimum standard conducive to human dignity and well-being (Canto, Brown, & Deller, 2014; Partridge, 2014; Thorbecke, 2004). Poverty connotes deprivation of the means of subsistence. The manifestations of poverty include inadequate distribution of resources, lack of access to basic social services like education and health, food scarcity, low life expectancy, and lack of

participation in decision making processes, (Davis, 2007). Analysis of the social aspects of poverty links conditions of scarcity to aspects of the distribution of resources and power in a society and recognizes that poverty may be a function of the diminished "capability" of people to live the kinds of lives they value, (Ranathunga & Gibson, 2014; Fissuh & Harris, 2005; Nmadu, Gajere, Odine & Sallawu, 2013). The International Labour Organization (ILO, 2004) observed that, while the total number of people worldwide living on less than $1 a day declined from 1.45 billion to 1.1 billion, between 1981 and 2001, mainly as a result of the rapid economic growth in China and other countries in Asia, the number in Sub-Saharan Africa increased from 164 million to 314 million. Of this total, some 155m are women and men of working age. In addition, World Bank (1996)–(2009) indicated that Africa has the largest number of working poor in total employment of any region. The report further estimated that around 55% of all people employed in Sub-Saharan Africa do not earn enough to lift themselves and their families above the $1 a day poverty line and that about 80% are subsisting on under $2 a day. Economic Commission for Africa, ECA (2006) added that even in those countries that have seen significant economic growth, such growth have not had an apparent impact on poverty and only a few countries in the region are likely to achieve the MDG goal of reducing extreme poverty by half by 2015.

The proportions of males and females in a population are usually very similar, peculiar circumstances such as war or highly selective immigration can considerably change this sex ratio. However, throughout the ages, the sharing of power, wealth, influence, employment etc., between men and women has never been close to equality. Even in the most advanced countries, gender inequality in wealth distribution has remained a live issue (Idowu, Awoyemi, Omonona, & Falusi, 2011, Ajulor, 2013; Asogwa, Umeh, & Okwoche, 2012; Mbanasor, Nwachukwu, Agwu, Njoku, & Onwumere, 2013). According to IMF Report (IMF, 2006), over the years, many women are faced with the daunting challenges of joblessness, no source of livelihood, widowhood, and single parenthood. These challenges notwithstanding, the roles played by women in national development and in all facets of human endeavours have been quite notable. The status of women often changes when financial impoverishment disappears. When women become economically empowered, they can carry out activities that demonstrate financial independence, they can develop the capacity to take decisions. The situations of women in certain areas of activities in many developing countries seem to have deteriorated relative to that of men. Two of the eight Millennium Development Goals (MDGs) have to do with eradicating extreme poverty and hunger as well as promoting gender equality and empowering women. Countries that invest in promoting the social and economic status of women tend to have lower poverty rate. For example, an extra year of secondary schooling for girls can increase their future wages by 10 to 20 %. In 2006, 51% of all assistance to the International Development Association (IDA), the World Bank's fund for the poorest countries, included gender in project operations. In 2007 the World Bank launched the Gender Action Plan (GAP) to focus on gender in the land, labour, agriculture, finance, and infrastructure sectors (Adeola & Doppler, 2013).

All over the world, women are at the centre of poverty. Women specifically find it more difficult, if not impossible, to have access to loans from financial institutions, wherein their male counterparts can easily get the same help. This account for a disturbing global trend: the feminization of poverty. (Alaye-Ogan, 2008; Buvinic, 1986, 1989; Rahman, 1998). When the yardstick used to measure the degree of people's poverty is their level of well-being, women are traditionally found to be more impoverished than men. This situation is worse in developing countries like Nigeria.

Because women are increasingly economic actors and heads of households as well as mothers, their poverty slows down global economic growth (Ajah, Unamma, & Nwachukwu, 2010). In a world of blurring borders, women's poverty creates enclaves of want in the midst of wealth, and puts rising pressures on the developed world, whether by fuelling costly humanitarian crises or by unleashing, for the first time, waves of females who migrate without their spouses to seek work in richer countries.

Finance is the backbone of any economy and can limit the level of economic activities of an individual, society or country. Adegoroye and Adegoroye (2008) reported that lack of finance and access to loans militates against women economic empowerment. Magaji and Aliyu (2007) also find that credit influences physical autonomy and affects most of the women empowerment indicators significantly. They further stated that loans with training are found more effective in addressing many socio-economic problems of women especially in developing countries. Furthermore, Malami (2008) identifies lack of proper funding as one of the fundamental problems blocking the chances of women from attaining economic empowerment and that if provided, it will assist to empower the economic position of women and consequently reduce the level of poverty. Ebele (2003) explained that in some African countries, employment opportunities and per capita income of women is lower than that of men, which contribute to low economic profile of women.

Nigeria Government introduced a number of compensatory measures and supply side mechanisms to cushion the effects on the citizens as a fight against poverty. The measures were popularly known as poverty alleviation measures. Such measures included Better Life for rural women, intended to empower women, the establishment of Peoples' Banks and Community Banks to facilitate access to credits and differential petrol pricing system, among others. Before the introduction of this programme in 1986, previous governments came up with different measures intended to better the lot of Nigerians. Such measures ranged from agricultural projects to provide gainful employment, food for the populace and raw materials for industries, health, housing, and educational programmes. The overall objective in the case of agriculture was to ensure food sufficiency for the country. Programmes in this sector included the Green Revolution, NALDA, Seed Multiplication Programme, etc. In the area of health, the major programmes were Basic Health Program, including the Oral Rehydration Therapy (ORT), Polio Vaccine, and lately HIV/AIDS Treatment and Prevention Programmes (Nmadu, Sallawu & Omojeso, 2015)**.** As laudable as government intervention programmes may seem to be in terms of poverty alleviation particularly among women, these programmes do not seem to influence women socio-economically (Ajah et al., 2010; Nmadu, Yisa, Simpa & Sallawu, 2015). Besides, where impacts are made, the level is too minimal to affect the economic growth of the country. There are several factors that hinder womens' empowerment and poverty alleviation (Ajah et al., 2010). There is also concern about the capacity of the women to actually participate in the programmes.

Adaptation is the process of adapting and adjusting to sustained changes in environmental and associated conditions and takes place over time. Adaptive capacity on the other hand, is a threshold of capacity acquired from the changes in the environmental conditions that enables individuals adapt to changes. In all the previous use of the concept, it has been applied to adaptation strategies to climate change (Asante, Boakye, Egyir, & Jatoe, 2012; Nelson, Lamboll, & Arendse, 2008; Swanson, Hiley, Venema, & Grosshans, 2007; Mabe, Sarpong, & Osei-Asare, 2012; Larbi, 2015). The capacity of farmers to adapt is more of qualitative assessment than quantitative,

measured by the degree of attainment of the attributes of individuals on the various innovations, in this study PAPs.

To determine the effectiveness of PAPs, it is necessary to assess the factors affecting women participation in Niger State. It is important to ask how appropriate are the various socio-economic profiles of the women in the study area vis-à-vis there expected acceptance and participation in the programmes? What is the current level of participation in the programmes? What are their adaptive capacities to these programmes and how adequate are they to ensure effectiveness of the programmes? And what are the factors affecting the adaptive capacities of the respondents?In order to provide answers to the above questions, this study was initiated. The general objective of this study is to examine the factors influencing women participation in poverty alleviation programmes (PAPs) in Niger state Nigeria. The specific objectives of the study therefore, are to (i) describe the socio-economic characteristics of the respondents in the study area; (ii) determine the extent of participation in the various PAPs; (iii) ascertain the effectiveness of the various PAPs; (iv)determine the adaptive capacities associated with the various PAPs; (iv) determine the factors influencing adaptive capacities of the women to participate in the various PAPs, and then (v) describe the constraints faced by respondents in participating in the various PAPs in the study area.

Not much attention has been paid to the issues of capacity while either designing PAP or reviewing implementation. Much of the attention is paid to benefits in terms of increased assets or larger farm sizes. This study seeks to depart from the norm and attempt to determine the capacity to adopt and the factors that could accentuate participation in PAPs when they are introduced to the target population. It hoped that the major outcomes of this foundation study will help in addressing observed short-comings in implementation in this era of Sustainable Development Goals (SDGs).

Methodology

This study was conducted in Niger State, Nigeria located within latitudes 8^{o} 12^{o}N – 11^{o}30N and longitude $3^{o}30^{o}$E – 7^{0}20E. The state is bordered to the North by Zamfara state, North West by Kebbi state, South by Kogi state, South West by Kwara state, while Kaduna state and federal capital territory bordered the State North East and South East respectively. Furthermore, the state shares a common international boundary with the republic of Benin at Babanna in Borgu Local Government Area of the state. The state covers a total land area of 76,000 km^2, or about 9% of Nigeria area and has a projected population of 5,207,680 consisting of 51% males and 49% females in 2014 based on 3.5% growth rate of the 2006 population (NBS, 2006; UNFPA, 2010). Other characteristics of Niger state are in (Nmadu & Akinola, 2015; Nmadu, Eze, & Jirgi, 2012; Nmadu, Iwuajoku, & Jiya, 2012).

The sample population for this study consists of women in Bosso Local Government Area of Niger State. Bosso was chosen because it is peri-urban LGA and is in close proximity to the State capital, Minna as well as the host to Federal University of Technology, Minna. It was believed that women as a result will have high level of awareness and therefore would participate actively in any PAP. A reconnaissance was conducted to determine the total number of PAPs that have been promoted in the various villages of the LGA. A Multi-stage sampling technique was applied in selecting the respondents for this study with the assistance of Village Extension Agents (VEAs) and *Mai angwas* (Village Heads) of the area. In the first stage, three (3) peri-urban villages, Maikunkele, Bosso and Chanchaga

were purposively selected based on the prevalence of PAPs. The second stage involved random selection of 20 women from Maikunkele, 40 women from Bosso and 40 women from Chanchaga in line with the total population of women in those villages, giving the total sample size of 100 respondents.

Primary data are used for this study. The primary data were generated through interview using a constructed questionnaire and scheduled interview designed to provide information on the socio-economic characteristics of the women, various PAPs, extent of women participation in poverty alleviation programme, and the factors affecting women participation in PAPs in the study area.The data collected were analysed using descriptive statistics such as means, frequencies, tables and percentages which help to achieve objectives one, two, three and six. Objective four was achieved using Adaptive Capacity while objective five was achieved using Beta Regression. To determine the adaptive capacities of the rural women, the Likert-type scores of the various attributes on the individual PAPs are converted to adaptive scores as shown on Table 1.Then the adaptive capacity of the i^{th} rural women to the j^{th} PAP

Table 1. Score used to measure rural women's adaptive capacities of the various PAPs

	Likert score	Adaptive scores	ATTRIBUTES				
			Knowledge	Accessibility	Availability	Consultation	Use
Highest	5	1	Very well	Easily accessible	Very regular	Very frequently	Several
Higher	4	0.75	Well	Accessible	Regular	Frequently	Twice
High	3	0.45	Fairly well	Not easily accessible	Occasionally	Occasionally	Once
Low	2	0.25	Not well	Not accessible	Never	Never	Never
Neutral	1	0.5	Not sure	Not sure	Not sure	Not sure	Not sure

Source: Adapted from Mabe et al., (2012), Asante et al., (2012), Swanson et al., (2007) and Larbi, 2015)

Table 2 Adaptive capacity classes of rural women

Degree of Adaptive Capacity	Range of Indices for Adaptive capacity
High	Adap Cap >0.65
Moderate	0.511 <Adap Cap≤0.65
Neutral	0.451 <Adap Cap≤0.51
Low	0 <Adap Cap ≤ 0.45

Source: Adapted from Asante et al., (2012) and Mabe et al., (2012)

was calculated in line with (Mabe et al., 2012) (Asante et al., 2012) Larbi (2015) as shown in eq. (1):

$$Adap\ Cap_{ij} = \frac{K_{ij} + U_{ij} + V_{ij} + A_{ij} + C_{ij}}{N_A} \quad (1)$$

Where $Adap\ Cap_{ij}$ = the adaptive capacity of an *i*th rural woman to a *j*th PAP, K_{ij} = the knowledge of the *i*th rural woman on *j*th PAP, U_{ij} = the level of usage of *j*th PAP by *i*th rural woman, V_{ij} = the availability of innovations on *j*th PAP to *i*th rural woman, A_{ij} = accessibility of innovations on *j*th PAP to *i*th rural woman, C_{ij} = level of consultation on *j*th PAP by *i*th rural woman, N_A = the sum of applicable attributes. The average adaptive capacity of the rural woman to the *j*th PAP was calculated as shown in eq. (2).

$$Average\ Adap\ Cap_{ij} = \frac{\sum_{i}^{100} \sum_{j}^{5} \text{Adap Cap}_{ij}}{N} \quad (2)$$

where N is the number of observation. Based on the adaptive capacities of the attributes, the respondents were then classified into the various adaptive capacity classes as shown in Table 2.

The available data was used to fit a regression model to predict the adaptive capacity. Since the response variable is bounded in the open unit interval (0,1), the assumptions of normal distributed errors and homoscedasticity, as they are required for least-squares models, are not reasonable in this context. Such variables can be modelled with standard regression models after logit-transformation (logit (Y) = log(Y/(1-Y))) or directly using beta-regression (Cribari-Neto & Zeileis, 2010). Beta regression is a model used in a case where the response variable is between 0 and 1. It is more appropriate than ordinary least squares regression because of "bounding-effects" caused by the values not being sufficiently being far away from 1 or 0. The response variable is transformed into beta density, a more robust value by eq. (3).

$$\pi(y,p,q)=(\Gamma(p+q))/(\Gamma(p)\Gamma(q))\ y^{(p-1)}\ \llbracket(1-p)\rrbracket^{(q-1)}, 0<y<1 \quad (3)$$

Where p >0, q >0 and Γ(.) is the gamma function.

The mean and variance of y are shown in eqs. (4-5).

$$E(y)=p/((p+q)) \quad (4)$$

$$var(y)=pq/((p+q)^2\ (p+q+1) \quad (5)$$

(Ferrari & Cribari-Neto, 2004; López, 2013; Swearingen, Castro, & Bursac, 2011; Cribari-Neto & Zeileis, 2010).

The full model and the properties of the variables are presented on Table 3. Based on preliminary investigation, variables X_9 and X_{20} were dropped because of multicollinearity. The estimation was carried by developing the codes and implementing them using betareg (Cribari-Neto & Zeileis, 2010) package on R statistical software (R Core Team, 2015). Model fitting was done using R 3.2.2. Regressions were done using either logit-transformed response values assuming a Gaussian error model or untransformed response values assuming a beta-distributed response and a logit-link function.

In order to proceed with the model fitting, the binary variables were classified into four main groups i.e. Demographic (DEMO); Participation (PAP); Non-participation (NOPAP) and Opinion (OP) as presented in Figure 1. In addition, Figure 2-4 presents the distribution pattern of the quantitative variables; the bee swarm correlation of the binary variables with the response variable and the coefficients of the quantitative variables with the response variable as well as between themselves.Some variables were changed or

modified for modelling: PAP is then an indicator variable for the participation in poverty programs. Rather than include level of children education in the model, the proportion of children in formal education (i.e. CHILDEDU) was used as a better indicator for the availability of education of the children, less depending on the size of the family. Due to instabilities of the fits, the large number of predictors and the limited sample size, it was not possible to analyse all possible two-way interactions of the predictors. The most influential two-way interactions were searched

Table 3. Description of the variables in the Beta regression and their properties*

Variable	Mean	Std. Dev.	Min	Max
Religion(Islam=1, Christian=0) **(X_1)**	0.36			
Age in years **(X_2)**	38.65	11.22	20	69
Marital Status(Single=1, Others=0) **(X_3)**	0.24			
Number of years spent in formal education **(X_4)**	7.61	5.84	0	22
Completed Primary Education (Yes=1,N0=0) **(X_5)**	0.68			
Completed Secondary Education (Yes=1,N0=0) **(X_6)**	0.43			
Completed Quaranic education (Yes=1,N0=0) **(X_7)**	0.08			
College of Education (Yes=1,N0=0) **(X_8)**	0.1			
Type of marriage (Monogamy=1, polygamy=0) **(X_9)**	0.55			
Household size **(X_{10})**	9.1	3.62	0	16
No. of males **(X_{11})**	3.5	1.48	0	8
No. of females **(X_{12})**	3.01	1.72	0	9
No. of dependents **(X_{13})**	1.17	1.07	0	4
No. of children in formal education **(X_{14})**	2.53	1.69	0	8
Employment status (self-employed=1, others=0) **(X15)**	0.71			
Income/week **(X_{16})**	7737.1	9997.78	0	52000
Seasonal income (Yes=1, No=0) **(X_{17})**	0.26			
Number of years in farming **(X_{18})**	6.26	10.99	0	40
No. of farm plots **(X_{19})**	0.43	0.83	0	4
Seasonal income **(X_{20})**	0.26			
No. of days in employment **(X_{21})**	51.87	88.64	0	295
Adaptive coefficient (Y)	0.37	0.08	0.23	0.54

by stepwise adding two-way interactions to the main-effects model including all predictors and selecting the interactions with the largest effect sizes (coefficients) and smallest z-values. The resulting model was simplified by stepwise model selection based on the AIC values. Model selection was performed for the logit-transformed response using standard linear models, because the beta-regression was not finding stable results for intermediate models. The final coefficients were calculated using the beta-regression model with logit link-function. The resulting model is then re-fitted using the untransformed response and a beta-error model (beta-regression). Two-way-interactions are introduced by forward-selection. The resulting model is backward selected.

Results and Discussion

The distribution and profile (Demographic, Participation, Non-participation and Opinion variables) of the women respondents as presented on Table 3 and Figure 1-4shows that the average age of the respondents in the study area was 39 years while the average years spent in formal education was 9 years. They had an average family size of 9 and an average of three children were enrolled in formal education. The average monthly income of the respondents was NGN7,737.1 .

The results of the analysis are presented on Table 4-19 and Fig. 5-6. Majority (75%) of the women are married and almost half (46.0%) of the respondents were engaged in agricultural trading as their major occupation as revealed on Table 4. It is further revealed that majority of the women have not had more than secondary education and most of the women were self-employed. The results are in consonance with earlier findings, particularly concerning low level of formal educational attainment. This has the tendency of negatively affecting the adaptive capacity of the respondents as we shall see shortly (Ike &Inoni, 2006; Nmadu & Simpa, 2014; Ogunsumi, Ewuola, & Daramola, 2005; Ajah & Nmadu, 2012, Nmadu, Sallawu & Omojeso, 2015).Tables 5-7 present results on the land holdings of the respondents and the characteristics of the plots. It can be observed that the size of land is very small and could limit the capacity of adaptation since poverty alleviation may also depend on the size of land holding. Moreover, size of land holding can be linked to the level of poverty. The various infrastructures associated with the plots show that the level of commercialization is low. This can be further observed on labour utilization for various farm operations as presented on Table 8. Most of the operations are carried out with family labour indicating that the farm is family business. Of course Table 9 shows that only food crops are produced and in many instances, women engage in agricultural production in order to provide adequate food and nutrition to her family (Tijani, Benisheik, Mustapha, & Dangaladima, 2010; Nmadu & Akinola, 2015).The results on Table 10 and 11 present house and household assets or gadgets as well as various livestock acquired by the respondents. These result shows that not much of productive assets have been acquired by the respondents. In addition, none of them own a house neither is any of them owners of cars. This is quite contrary to believe that if they have participated in PAPs, them it should afford them the ability to acquire productive assets as was envisioned in the implementation of Fadama III. Table 12-15 present results on the level of usage, nature of derived benefits, perceived effectiveness and adaptive capacities of the various PAPs of the respondents. The results revealed that the level of usage and effectiveness was very low and very low benefits were derived from the PAPs. However, the results on Table 15 seem to indicate that the reason for the low level of usage and effectiveness is most likely due to the low level of adaptive capacities of each of the PAPs. Less than 10% of the respondents actually possess the required capacity to adapt to the PAPs. In view of this, the key here is to

determine policy factors that can raise the adaptive capacities and how they can be used to influence the level of usage of PAPs especially as we transit from MDGs to SDGs.Tables 16 and 17 present results on issues and concerns that encourage or discourage participation in PAPs. The respondents agreed with only one concern on Table 18 while they agreed with six issues on Table 19. The agreement on Table 18 seems to suggest a bandwagon effect in participation while that on Table 19 seems to suggest that financial reason and better enlightenment could increase participation. How appropriate those notions are will be revealed by their effect on adaptive capacities.

The result of the estimates of the Beta Regression on Table 18 indicated that only proportion of children in formal education and level of income did not exhibit any significant relationship with adaptive capacity on its own whereas all the variables in the final model were significant either alone or interaction with others although most of the variables tended to suppress adaptive capacity. Among the predictors that were not part of any relevant interaction, religion, marital status, acquisition of Quaranic education, employment status, and non-participation due to lack of confidence show a negative relationship with the adaptive capacity, whereas non-participation due to level of literacy and full participation show positive relationship with the adaptive capacity. On average, marital status had the strongest effect, reducing the capacity from 0.37 to 0.27.Proportion of children in formal education showed strong interactions with several other variables. The expected capacity increases with proportion of children in formal education when number of days in employment=1 but remains independent of proportion of children in formal education when number of days in employment =0. The expected capacity increases with proportion of children in formal education when seasonal income=0 but decreases when seasonal income=1. With non-participation due to unavailability of PAPs=0, the capacity increases with proportion of children in formal education, but it is independent of proportion of children in formal education when non-participation due to unavailability of PAPs =1. The strongest interactions of proportion of children in formal education were observed with number of children and with household size. In families with few children, capacity decreases with increasing proportion of children in formal education, but this trend reverses as the number of children increases. For families with more than 5 children, capacity increases with increasing proportion of children in formal education. Just the opposite is the case for the interaction with household size. Fig.5-6 shows the main effects and interactions predicted at 90% by intervals at the means of the covariates.

The results of the constraints faced by the respondents in participating in PAPs as presented on Table 19 indicates that what has resulted in low participation and low adaptive capacities is attributable to awareness and level of literacy. It therefore means that substantial component of any PAP should be related to awareness and education. There could also be the need of aligning the objectives of any PAP to the needs of the targeted population.

Conclusion

In view of the fact that huge sums of money was expended in managing intervention programmes for poverty alleviation, this study was initiated to estimate the capacity of rural women in Niger State of Nigeria to adapt these programmes and determine the factors that influence their capacity. The findings indicated that there was some sort of awareness of the various programmes but the level of usage was extremely low and the respondents perceived that the programmes were not effective at all. From the assets acquired and the land holdings, there was no any reason to

indicate that the welfare level of the respondents have been improved by the participation in the PAPs. It was also observed that most of factors either alone or in interaction with others tend to suppress the adaptive capacity of the women to participate in the PAPs. It was further noted that most of the respondents have not acquired beyond secondary school haven spent about 8 years in formal education, although completing College of Education was found to increase adaptive capacity by about 5%. Therefore, it is concluded that the respondents possessed low capacity to participate in PAPs mainly caused by lack of education and awareness. It is recommended that continuous education to meet the training needs of the rural women to understand and participate in PAPs should be a high priority in this era of change in Nigeria. There is need to integrate awareness and education in the programme document of any PAP in order to raise the level of participation above what is reported in this study. Lastly, the feminization of poverty should be considered a legitimate foreign policy concern.

References

Adegoroye, A. A. & Adegoroye A. A. (2008) The roles of selected NGOs in economic empowerment of rural women in Ibadan land. Journal of Gender and Behaviour, Ife Centre for Psychological Studies, Ile-Ife, Nigeria, 6 (2): 45.

Adeola, O. O., & Doppler, W. (2013). Estimating the economic success of farm families : a case of farming systems in Imo state , Nigeria. *International Journal of AgriScience,* 3(1 (January)), 1–7.

Ajah, J., & Nmadu, J. N. (2012). Socio-economic factors influencing the output of small-scale maize farmers in Abuja , Nigeria. Kasertsart J. (Soc. Sci), 33, 333–341.

Ajah, J., Unamma, R. A. & Nwachukwu, I. (2010). Problems hindering the participation of women farmers in Women-in-Agriculture Programme in Southeastern Nigeria. In J. N. Nmadu, M. A. Ojo, U. S. Mohammed, K. M. Baba, F. D. Ibrahim, & E. S. Yisa (Eds.), Commercial Agriculture, Banking Reforms and Economic Down-Turn: Setting a new Agenda for Agricultural Development in Nigeria (455–459). Nigerian Association of Agricultural Economists.

Ajulor, O. V. (2013). Policy implementation and rural poverty reduction in Nigeria (an Analysis of the National Poverty Eradication Programme (NAPEP) in Ado-Odo Ota Local Government Area ,Ogun State). In 1st Annual International Interdisciplinary Conference (pp. 24–26). Azores: AIIC.

Alaye-Ogan, E.O. (2008). Rural poverty among Women in Nigeria: A case study of Abuja Satelite Communities of Nigeria. PhD Thesis, St. Clements University, Turks & Cooks Islands, British West Indies.

Asante, F. A., Boakye, A. A., Egyir, I. S. & Jatoe, J. B. D. (2012). Climate change and farmers' adaptive capacity to strategic innovations: The case of northern Ghana. International Journal of Development and Sustainability, 1(3), 766–784. Retrieved from http://isdsnet.com/ijds-v1n3-11.pdf

Asogwa, B. C., Umeh, J. C., & Okwoche, V. A. (2012). Poverty and efficiency among the farming households in Nigeria : A guide for poverty reduction policy. *Current Research Journal of Economic Theory*, 4(1), 6–10.

Buvinic, M. (1986). Projects for women in the third world: explaining their misbehaviour. *World Development* 14(5):653-664.

Buvinic, M. (1989).Investing in poor women: the psychology of donor support. *World Development* 17(7):1045-1057.

Canto, A., Brown, L. E., & Deller, S. C. (2014). Rural poverty , food access, and public health outcomes. *Choices: The Magazine of Food, Farm and Resource Issues,* 29(2), 1–5.

Cribari-Neto, F. & Zeileis, A. (2010). Beta Regression in {R}.*Journal of Statistical Software,* 34(2), 1–24. Retrieved from http://www.jstatsoft.org/v34/i02/

Davis, L. S. (2007). Explaining the evidence on inequality and growth : informality and redistribution growth : informality and redistribution ∗. *The B.E. Journal of Macroeconomics,* 7(1), (Contributions) Article 7. Retrieved from http://www.bepress.com/bejim/vol7/iss1/art7

ECA {Economic Commission for Africa}(2006). Meeting the challenges of employment in Africa: An Issues paper. Accessed from http: www.commisionforafrica.org/.

Ebele, A. (2003) Gender and economic development. A paper delivered to participants of Senior Executive Course, No 25 of the National Institute for Policy and Strategic Studies, Jos. Pp94

Ferrari, S. L. P., &Cribari-Neto, F. (2004).Beta regression for modelling rates and proportions. *Journal of Applied Statistics,* 31(7), 799–815.

Fissuh, E., & Harris, M. (2005). *Modeling determinants of poverty in Eritrea: a new approach*. Clayton, Victoria 3800.

Idowu, A. O., Awoyemi, T. T., Omonona, B. T., & Falusi, A. O. (2011).Non-farm income diversification and poverty among rural farm households in Southwest Nigeria. *European Journal of Social Sciences,* 21(1), 163–176.

Ike, P. C., &Inoni, O. E. (2006).Small-holder farmers in South-eastern Nigeria. *Central European Journal of Agriculture*, 7(2), 337–342.

IMF: (2006) *Economic outlook database. making new technologies work for human development*. Oxford University Press, pp78

International Labour Organization (ILO) Reports (2004) Global employment trends Brief (Geneva). P83.

Jha, R., & Sharma, A. (2003).The spatial distribution of rural poverty in the last three quinquennial rounds of NSS (No.WP 2003/002).

Kates, R. W., Parris, T. M., & Leiserowitz, A. A. (2005). What is Sustainable. *Environment: Science and Policy for Sustainable Development*, 47(3), 8–21.

Larbi, I. (2015). Evaluation of root and tuber crops yield under the changing climatic conditions in Kwara State, Nigeria. M.Tech. Thesis, West African Science Service Center on Climate Change and Adapted Land Use (WASCAL), Federal University of Technology, Minna, Nigeria

López, F. O. (2013). A Bayesian approach to parameter estimation in simplex regression model : a comparison with beta regression. *Revista Colombiana de Estadística,* 36(1), 1–21.

Mabe, F. N., Sarpong, D. B., & Osei-Asare, Y. (2012). Adaptive capacities of farmers to climate change adaptation strategies and their effects on rice production in

the Northern Region of Ghana. *Russian Journal of Agricultural Socio-Economic Sciences,* 11(11), 9–17.

Magaji, S. & C. U. Aliyu (2007). Micro-credit and women empowerment in Bauchi State: the role of community banking. Department of Economics, Usman Danfodio Univeristy, Sokoto, *Issues in Economics*, 2:23.

Malami, H. U. (2008) The contributions of contemporary sokoto women to the nigerian economy: a case study of women and girl child centre, GidanHaki Area Journal of Gender and Behavior 6(2):59.

Mbanasor, J. A., Nwachukwu, I. N., Agwu, N. M., Njoku, M.-S.E., & Onwumere, J. (2013). Analysis of income inequality and poverty dynamics among rural farm households in Abia State, Nigeria. *International Journal of Food and Agricultural Economics*, 1(2), 99–104.

Moore, K.A., Jekielek, S.M., Hair, E.C. & Scarupa, H.J. (2007).Mentoring: a promising strategy for youth development. Child Trends Research Brief. Retrieved May 4, 2008from:http//www.childtrends.org/Files//Child_Trends200201.

NBS (National Bureau of statistics), (2006).Federal Republic of Nigeria 2006 census. Official Gazette http://www.nationsencyclopedia.com

Nelson, V., Lamboll, R., &Arendse, A. (2008).DSA-DFID Policy Forum, Discussion Group Background Paper: Climate Change Adaptation, Adaptive Capacity and Development. DSA-DFID Policy Forum. Retrieved from http://climateanddevelopment.nri.org/papers.htm (26.06.2011)\nhttp://climateanddevelopment.nri.org/background_papers/nelson_lamboll_and_arendse_climate_change_adaptation.pdf

Nmadu, J. N., & Akinola, A. (2015).Farm labour supply and utilization for food crop production in Nigeria.InINTCESS15-2nd International Conference on Education and Social Sciences (pp. 1–11). Istanbul, Turkey.

Nmadu, J. N., &Simpa, J. O. (2014).Rethinking the technical efficiency of small scale yam farmers in Nigeria using conventional and non-conventional inefficiency parameters. In 58th AARES (Australian Agricultural and Resource Economic Society) Annual Conference (pp. 1–17). Port Macquarie. Retrieved from http://ageconsearch.umn.edu

Nmadu, J. N., Eze, G. P., & Jirgi, A. J. (2012). Determinants of risk status of small scale farmers in Niger State , Nigeria. *British Journal of Economics, Management & Trade*, 2(2), 92–108.

Nmadu, J. N., Gajere, R. A., Odine, A. I., & Sallawu, H. (2013).Dynamics of poverty and food security in Minna Niger State. In Climate Change, Agriculture and Food Security. Proceedings of the 14th National Conference (488–494). Nigerian Association of Agricultural Economists.

Nmadu, J. N., Iwuajoku, R. C., & Jiya, E. Z. (2012). Commercialisation level of poultry production in Minna Metropolis , Niger State , Nigeria. *Asian Journal of Agricultural Extension, Economics & Sociology,* 1(1), 1–15.

Nmadu, J. N., Sallawu, H., & Omojeso, B. V. (2015). Socio-economic factors affecting adoption of innovations by cocoa farmers in Ondo State, Nigeria. European Journal of Business, Economics and Accountancy, 3(2), 58–66.

Nmadu, J. N., Yisa, E. S., Simpa, J. O., & Sallawu, H. (2015). Poverty reduction in Nigeria: Lessons from Small Scale Farmers of Niger and Kogi States. *British Journal of Economics, Management & Trade*, 5(1), 124–134. doi:10.9734/BJEMT/2015/13321

Ogunleye, O. (2010). Towards sustainable poverty alleviation in Nigeria. *African Research Review,* 4(2), 294–302. doi:10.4314/afrrev.v4i2.58318

Ogunsumi, O. L., Ewuola, S. O. L. U., & Daramola, A. G. (2005). Socio-economic impact assessment of maize production technology on farmers' welfare in Southwest , *Nigerian Journal of Central European Agriculture*, 6(1), 15–26.

Oluyole, K. A. (2012). The impact of micro-credit projects on poverty alleviation: a case of farming households in Ijebu-Ode Local Government Area of Ogun State, Nigeria. *Global Journal of Science Frontier Research Agriculture & Biology,* 12(4).

Oyeniyi, A. B. (2013). Poverty alleviation and empowerment of small-scale industries in Nigeria : The case of Tie and Dye Makers Association. *African Journal of History and Culture,* 5(6), 114–124. doi:10.5897/AJHC11.006

Partridge, M. D. (2014). Is poverty worth fighting wars over ? *Choices: The Magazine of Food, Farm and Resource Issues,* 29(2), 1–4.

R Core Team (2015). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/

Rahman, R. (1998). Rhetoric and realities of micro-credit for women in rural Bangladash: A Village Study of Grameen Bank Lending. PhD Thesis, University of Manitoba, Winnipeg, Manitoba, Canada.

Ranathunga, S., & Gibson, J. (2014). Determinants of household poverty in the rural sector in Sri Lanka : 1990-2010, 3(3), 43–49. doi:10.11648/j.eco.20140303.11

Swanson, D., Hiley, J., Venema, H. D., & Grosshans, R. (2007). Indicators of adaptive capacity to climate change for agriculture in the Prairie Region of Canada. Adaptation as resilience building: a policy study of climate change vulnerability and adaptation on the Canadian Prairies. Retrieved from www.iisd.org

Swearingen, C. J., Castro, M. S. M., & Bursac, Z. (2011). Modeling percentage outcomes : The Beta _ Regression Macro SAS Global Forum 2011 (No. 335-2011). Little Rock.

Thorbecke, E. (2004). Conceptual and measurement issues in poverty analysis. *World Institute for Development Economics Research* (WIDER), 30–31.

Tijani, B. A., Benisheik, K. M., Mustapha, A. B., & Dangaladima, W. (2010). Analysis of factors influencing labour supplied to non-farm sub-sector by households in Mubi North Local Government Area of Adamawa State, Nigeria. Nigerian J*ournal of Basic and Applied Science,* 18(1), 35–43.

UNFPA (United Nations Fund for Population Activities) (2010): 2006 Populations projections, available at http://nigeria.unfpa.org/niger.html.

World Bank, (1996) Nigeria: poverty in the midst of poverty. A World Bank Poverty Assessment Report N0 14733.

World Bank, (2000) *Poverty and welfare in Nigeria. Collaboration with Federal Office of Statistics and National Population Commission, Nigeria,* Lagos: Impact Press. 5(3): 36-44

World Bank. (2001). Engendering development through gender equality in right resources and voice. *World Development Report* 4(4). P42.

World Bank, (2003): Sustainable development in a dynamic world. *World Development Report* 11(4). P567.

World Bank (2009). Understanding poverty. Web.worldbank.org.2005-04-19. http://web.worldbank.org.Retrieved 2010-10-24.

Table 4 Various economic activities engaged in by respondents in the study area

Activity	Freq.	Average wage in NGN	No. of days engaged per year
Crop production	1	2451.12	238
Livestock	8	10904.67	52
Crop & livestock	8	8578.00	153
Agricultural trading business	12	8310.40	184
Agricultural Processing	13	1534.55	154
Business woman	21	5094.12	121
Okada service	13	1500.00	198
Student in school	2	70.00	361
Hand craft	5	1530.00	182
Mining/Quarry worker	7	1750.38	198
Health worker	6	2600.00	156

Table 5 Characteristics of farm holdings by respondents in the study area

Plot	**1**	**2**	**3**	**4**
Size	0.32	0.16	0.06	0.01
Cost of rent or purchase or lease in NGN	230.00	220.00	20.00	0.00
Distance from village (km)	0.56	0.47	0.07	0.01
Distance of farm to your main market (km)	2.82	1.82	0.19	0.03
Time taken to trek from village to farm (hours)	0.46	0.42	0.05	0.00
Distance of farm to main financial institution (bank, coop, NGO etc.)	6.55	3.19	0.39	0.03

Table 6 Method of acquisition of the farm plots owned by respondents in the study area

Plot	Inheritance	community land	rented	leased	purchased	No response
1	13	8	2	5	1	71
2	12	3	5	0	1	79
3	5	0	0	1	0	94
4	1	0	0	0	0	99

Table 8 Manual Labour inputs in man/days for various farm operations in the various farm plots

OPERATION	Family	Hired	Communal	Average wage per day in NGN
Land clearing	64	49	7	2936.00
Ploughing	24	18	7	1766.67
Ridging	90	66	3007	5508.33
Plating	27	43	7	2821.05
First fertilizer application	39	11	7	927.27
2nd fertilizer application	14	24	7	1300.00
Staking of yam	78	47	7	2405.00
First weeding	90	41	7	3315.00
Second weeding	71	29	7	2670.00
Third weeding	39	11	7	1647.06
Harvesting	90	41	7	2454.55
Processing	66	28	7	1447.37
Threshing	43	28	7	1352.63
Winnowing	35	22	2507	1125.10
Bagging	36	21	7	1104.76
Transportation	23	27	7	2242.00

Table 9 Frequency of growing various crops by the respondents

Crops	Always	Sometimes	Grown when other crops fail	Grown occasionally in the community	Not cultivated at all	Rank
Yam	44	2	0	0	54	1
Maize	39	1	0	0	60	2
Okra	39	1	0	1	59	3
Sorghum	38	0	2	0	60	4
Rice	37	1	0	0	62	5
G/Nut	36	10	0	0	54	6
Garden egg	30	10	0	3	57	7
Millet	29	11	1	1	58	8
Beans	28	16	0	0	56	9
Sweet potato	25	4	0	5	66	10
Hot pepper	22	5	1	1	71	11
Spinach	18	20	0	2	60	12
Tomato	12	27	0	1	60	13
Soybeans	10	28	0	0	62	14
Sweet pepper	9	16	0	10	65	15
Cassava	7	19	10	2	62	16
Citrus	7	5	1	10	77	17

Table 10 : Various gadgets and assets possessed by the respondents in the study area

Gadget/Asset	No.	Average cost in NGN
Electric cooker	2	8500.00
Gas cooker	9	11944.44
Kerosene stove	23	1838.64
Freezer	2	32000.00
Fridge	3	33666.67
GSM phone	53	6932.08
Television	7	14571.43
Radio/Cassette player	35	7116.00
CD Player	7	5285.71
Air-conditioner	2	70000.00
Fan	11	7609.58
Car	3	188375.00
Motor cycle	13	83615.38
Bicycle	14	8714.29
Farm Store	7	31857.14
Store	7	47857.14
Others (specify)	16	10082.47

Table 11 Livestock holding by the respondents

	Available	Consumed	Sold	Gift	Death	Stolen	Total	Estimated value in '000 NGN
Cow	41	2	12	0	0	0	55	3620.00
Bull/oxen	17	1	5	0	0	0	23	427.00
Sheep	174	17	73	5	4	2	275	2613.80
Goat	296	54	134	0	3	4	491	3323.40
Local chicken	878	143	217	43	47	15	1343	1196.72
Broiler	529	105	170	8	40	16	868	1022.80
Cockerel	42	9	27	0	2	0	80	147.80
Turkey	77	0	50	0	13	1	141	552.00
Duck	125	18	21	5	4	1	174	221.50
G/Fowl	209	17	20	11	1	0	258	283.30
Dogs	2	0	0	0	0	0	2	8.00

Table 12 Frequency of usage of the various PAPs by respondents in the study area[1]

PROGRAMME	Very frequently	Frequently	Occasionally	Never	Not sure	Mean score	REMARK
Women Affair and Poverty Alleviation Programme (WAPA)	0	0	2	92	6	1.96	Never
National Poverty Eradication Programme (NAPEP)	2	2	9	77	10	2.09	Never
National Health Insurance Scheme (NHIS)	4	21	14	59	2	2.66	Occasionally
National Directorate of Employment (NDE)	0	2	12	79	7	2.09	Never
Family Economic Advancement programme (FEAP)	8	2	0	83	7	2.21	Never
Better life for Rural Women (BLRW)	1	9	1	83	6	2.16	Never
Family Support Program (FSP)	0	0	11	80	9	2.02	Never
Community Action Programme for Poverty Alleviation (CAPPA)	0	0	0	97	3	1.97	Never
National Economic Empowerment and Development Strategy (NEEDS)	1	2	1	95	1	2.07	Never
Youth Empowerment Scheme (YES)	3	3	9	71	14	2.1	Never
FADAMA III	2	7	4	86	1	2.23	Never
Community and Social Development Programme (CSDP)	2	1	2	95	0	2.1	Never

Table 13 Nature of benefits derived from the various PAPs

	Capacity building	Cash grant	Cash loan	Asset	General training
Women Affair and Poverty Alleviation Programme (WAPA)	2	0	0	0	3
National Poverty Eradication Programme (NAPEP)	9	15000	0	0	7
National Health Insurance Scheme (NHIS)	13	0	0	9	2
National Directorate of Employment (NDE)	3	0	0	1	4
Family Economic Advancement programme (FEAP)	0	0	0	0	1
Better life for Rural Women (BLRW)	1	0	0	0	2
Family Support Program (FSP)	1	0	0	0	1
Community Action Programme for Poverty Alleviation (CAPPA)	2	0	0	0	0
National Economic Empowerment and Development Strategy (NEEDS)	0	0	0	0	0
Youth Empowerment Scheme (YES)	7	31000	0	2	10
FADAMA III	13	66000	195000	4	4
Community and Social Development Programme (CSDP)	1	6000	209000	4	4

Table 14 Perceived effectiveness of the various poverty alleviation programmes by the respondents

PROGRAMME	Very effective	Effective	Not effective	Not very effective	Not sure	Mean score	REMARK
Women Affair and Poverty Alleviation Programme (WAPA)	26	34	15	25	0	2.39	Not effective
National Poverty Eradication Programme (NAPEP)	26	20	10	39	5	2.77	Neutral
National Health Insurance Scheme (NHIS)	25	18	14	13	30	3.05	Effective
National Directorate of Employment (NDE)	23	34	12	15	16	2.67	Not effective
Family Economic Advancement programme (FEAP)	42	41	17	0	0	1.75	Not effective
Better life for Rural Women (BLRW)	28	34	13	15	10	2.45	Not effective
Family Support Program (FSP)	42	33	23	2	0	1.85	Not effective
Community Action Programme for Poverty Alleviation (CAPPA)	25	41	29	5	0	2.14	Not effective
National Economic Empowerment and Development Strategy (NEEDS)	24	40	32	4	0	2.16	Not effective
Youth Empowerment Scheme (YES)	19	20	15	42	4	2.92	Neutral
FADAMA III	4	78	5	9	4	2.31	Not effective
Community and Social Development Programme (CSDP)	3	88	1	4	4	2.18	Not effective

Table 15 Adaptive capacities of the respondents

Programmes	Neutral	Low	Medium	High	MC*
Women Affair and Poverty Alleviation Programme (WAPA)	21	74	5	0	0.40
National Poverty Eradication Programme (NAPEP)	21	47	22	10	0.47
National Health Insurance Scheme (NHIS)	4	44	7	45	0.53
National Directorate of Employment (NDE)	4	73	9	14	0.42
Family Economic Advancement programme (FEAP)	4	85	7	4	0.37
Better life for Rural Women (BLRW)	4	57	24	15	0.46
Family Support Program (FSP)	13	73	8	6	0.40
Community Action Programme for Poverty Alleviation (CAPPA)	1	97	2	0	0.33
National Economic Empowerment and Development Strategy (NEEDS)	0	94	5	1	0.33
Youth Empowerment Scheme (YES)	9	52	28	11	0.45
FADAMA III	2	85	3	10	0.33

Table 16 Perceived reasons for participating in PAPs by the respondents

Statement	Strongly Agreed	Agree	Disagree	Strongly Disagree	Not Sure	Mean score	REMARK
I participated in almost all PAPs in my area **(5 or 4=1, others=0, X22)**	10	32	34	11	13	2.85	Disagree
I think other women participate as well **(5 or 4=1, others=0, X23)**	41	7	18	33	1	2.46	Agree
I am satisfied with my level of participation in PAPs **(5 or 4=1, others=0, X24)**	8	35	38	19	0	2.68	Disagree
I am fully maximizing the potentials on the PAPs in my area **(5 or 4=1, others=0, X25)**	9	43	36	11	1	2.52	Disagree
I participate very often in poverty alleviation programme**(5 or 4=1, others=0, X26)**	17	34	28	18	3	2.56	Disagree
I participate in the same extent as the men do **(5 or 4=1, others=0, X27)**	44	14	23	19	0	2.17	Disagree

Table 17 Perceived factors that can enhance participation of respondents in PAPs

Factors	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure	Mean score	REMARK
Increase in my access to PAPs can help me participate more in programmes **(5 or 4=1, others=0, X28)**	10	4	4	27	55	4.13	Agree
Reduction in Gender based discrimination against women can help increase women participation in poverty reduction programmes **(5 or 4=1, others=0, X29)**	19	4	6	52	19	3.48	Agree
Increase in my awareness of the PAPs can help increase my participation in PAPs **(5 or 4=1, others=0, X30)**	14	6	3	48	29	3.72	Agree
I am not participating in PAPs because I am not confident in the programme **(5 or 4=1, others=0, X31)**	17	11	36	15	21	3.12	Neutral
Increase in my income can help increase my participation to poverty alleviation programme **(5 or 4=1, others=0, X32)**	33	3	3	37	24	3.16	Agree
The age of a woman can affect her participation in poverty alleviation programme **(5 or 4=1, others=0, X33)**	13	40	29	13	5	2.57	Disagree
I am not participating in poverty alleviation programme because I am not interested in the programmes **(5 or 4=1, others=0, X34)**	12	31	31	23	3	2.74	Disagree

Table 18 Final estimates of the factors affecting adaptive capacities of the respondents

	Estimate	Std. Error	z value	Pr(>|z|)	
(Intercept)	-0.811	0.209	-3.89	0.0001	***
Religion(Islam=1, Christian=0) (X_1)	-0.119	0.045	-2.67	0.0076	**
Marital Status(Single=1, Others=0)(X_3)	-0.444	0.116	-3.84	0.0001	***
Completed Quranic education (Yes=1,N0=0)(X_7)	-0.216	0.083	-2.60	0.0093	**
Household size (X_{10})	0.066	0.026	2.51	0.0119	*
No. of children in formal education (X_{14})	-0.484	0.474	-1.02	0.3075	
Employment status (self-employed=1, others=0) (X_{15})	-0.193	0.046	-4.23	<0.0001	***
Seasonal income (Yes=1, No=0) (X_{17})	0.637	0.177	3.60	0.0003	***
No. of days in employment (X_{21})	-0.416	0.154	-2.70	0.0070	**
X_{31}	-0.144	0.053	-2.74	0.0062	**
X_{36}	0.551	0.098	5.64	<0.0001	***
X_{37}	0.133	0.074	1.79	0.0735	.
PAP (X_{22}-X_{26})	0.241	0.064	3.76	0.0002	***
No. of males (X_{11})+No. of females (X_{12})	-0.134	0.034	-3.94	0.0001	***
Income/week (X_{16})	0.025	0.023	1.10	0.2720	
X_{14}: X_{16}	0.166	0.050	3.32	0.0009	***
X_{10}: X_{14}	-0.351	0.072	-4.89	<0.0001	***
X_{14}:No. of dependents (X_{13})	0.154	0.067	2.31	0.0206	*
X_{21}:No. of farm plots (X_{19})	-0.224	0.067	-3.37	0.0008	***
X_{14}: X_{17}	-1.864	0.347	-5.37	<0.0001	***
X_{14}: X_{21}	1.592	0.296	5.38	<0.0001	***
X_{14}: X_{36}	-1.197	0.177	-6.76	<0.0001	***
X_{14}: X_{11}+X_{12}	0.488	0.087	5.63	<0.0001	***

NB: Values in parenthesis are standard errors, n.e=not estimated, 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 19 Constraints faced by respondents in participating in the various PAPs

Constraints	Very serious constraint	Serious constraint	Not a serious constraint	Not a very serious constraint	Not Sure	Mean score	REMARK
Gender based discrimination	31	6	10	50	3	2.88	Constraint
Age	20	24	35	21	0	2.57	Constraint
Financial constraint	38	0	13	39	10	2.83	Constraint
Lack of interest in the programmes	16	25	32	21	6	2.76	Constraint
Lack of confidence in the programmes	15	5	13	47	20	3.52	Constraint
Unavailability of the programmes	13	0	1	48	38	3.98	Constraint
Lack of awareness of the programmes	6	0	0	21	73	4.55	Constraint
Inaccessibility of the programmes	37	20	17	9	17	2.49	Not a constraint
Illiteracy	17	3	24	16	40	3.59	Constraint
Low level of education	33	8	19	22	18	2.84	Constraint
Complexity of the participation process	33	0	12	30	25	3.14	Constraint